



# UNITED STATES PATENT AND TRADEMARK OFFICE

TP

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/754,200	01/09/2004	Nam V. Nguyen	016295.1561	8794

7590

09/19/2006

Roger Fulghum  
Baker Botts L.L.P.  
One Shell Plaza  
910 Louisiana Street  
Houston, TX 77002-4995

EXAMINER
----------

NGUYEN, HIEP T

ART UNIT	PAPER NUMBER
----------	--------------

2187

DATE MAILED: 09/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/754,200

Applicant(s)

NGUYEN ET AL.

Examiner

Hiep T. Nguyen

Art Unit

2187

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Claims 1-20 are presented for examination.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- a. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shirasawa et al. [hereafter, Shirasawa], U.S. Patent No. 7,032,218 in view of Burton et al., U.S. Patent No. 6,907,504 [hereafter, Burton].

- a. As per claim 1:

- i. Shirasawa teaches a method for updating an element of a storage drive of a drive array, comprising the steps of:
  1. Substituting a spare storage drive for a first storage drive in the drive array having unupdated element [figure 3; step 120];
  2. Updating the element in the first storage drive [figure 3, step 130]; and
  3. substituting the first storage drive for the spare storage drive [figure 3, steps 145].
- ii. Shirasawa, however, does not teach the step of updating the element of spare storage drive.
- iii. Burton teaches a similar system in that whenever the system update firmware to the drive array, the spare drive is also updated.
- iv. One having ordinary skill in pertinent art having two of the above mentioned teaching in front of him or her would lead he or she to further incorporate the teaching of Burton into the of Shirasawa so that to bring the spare drive to the most up-to-date state similarly to that of the rest of the drives in the drive array.

- v. Accordingly, it would have been obvious to one having ordinary skill in art at the time the invention was made to further update the Shirasawa spare drive with the new firmware also so that to bring the Shirasawa spare to the most up-to-date state similarly to the rest of the drives in the drive array.
- b. As per claim 2, the further claimed limitation of firmware updating is also taught by both Shirasawa and Burton, as mentioned in the rejection of claim 1.
- c. As per claims 3-4, the further claimed limitation of configuring the storage drives in RAID Level 5 is also taught by Shirasawa [see col. 7, line 18].
- d. As per claims 5-7: the further claimed steps are no more than the necessary steps when the Shirasawa spare drive is operated in the place of the drive being updated and the drive array is operated in RAID level 5. Thus, these steps are also inherent in the Shirasawa when the system is operated in RAID level 5.
- e. As per claim 8: the further claimed step is no more the necessary step for returning the system back to the normal mode after a drive has been updated with new firmware. Accordingly, the step is also inherent in Shirasawa.
- f. As per claim 9-20: the further claimed method are similar to that in claims 1-8, with an exception that more than one drive are now updated instead of one drive as claimed in claims 1-8. Shirasawa also teaches the further steps of updating more than one drive [see figure 5].

#### ***Conclusion***

- 4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
  - a. Pruett et al., 6728833, teaches an operation for upgrading firmware on disks of a RAID storage system without deactivating the server.
  - b. Hetrick et al., 2005/0033933, teaches systems and method for modifying disk drive firmware in a RAID storage system.

Art Unit: 2187

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hiep T. Nguyen whose telephone number is (571) 272-4197. The examiner can normally be reached on Monday-Friday from 6:30 AM-3:00 pm.
6. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on (571) 272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Hiep T. Nguyen  
Primary Examiner  
Art Unit 2187

HTN